



# THE NAVAJO NATION

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January 12, 2017

Elizabeth Adams  
Acting Director, Air Division  
U.S. EPA REGION 9  
75 Hawthorne Street  
Mail Code: ORA-1  
San Francisco, CA 94105

**RE: Dispersion Modeling Analysis Results for Four Corners Power Plant for Sulfur Dioxide on the Navajo Nation – Implementation of Data Requirements Rule for the 2010 1-Hour Sulfur Dioxide Primary National Ambient Air Quality Standard**

Dear Ms. Adams:

Pursuant to the United States Environmental Protection Agency's (U.S. EPA) Data Requirements Rule<sup>1</sup> ("DRR"), the Navajo Nation Environmental Protection Agency ("NNEPA"), Air & Toxics Department ("ATD"), Air Quality Control Program ("AQCP") is submitting a summary of the Four Corners Power Plant ("FCPP") SO<sub>2</sub> DRR modeling protocol and analysis results to demonstrate compliance with the 2010 1-Hour Sulfur Dioxide ("SO<sub>2</sub>") Primary National Ambient Air Quality Standard ("NAAQS"). NNEPA submitted a draft modeling protocol to U.S. EPA Region 9 on June 6, 2016 in which NNEPA had determined that the best approach to characterize air quality surrounding the Four Corners Power Plant was to conduct dispersion modeling. As per U.S. EPA's guidance (February 2016 *Draft SO<sub>2</sub> NAAQS Designations Modeling Technical Assistance Document*, herein referred to as "Modeling TAD"), "The primary objective of the modeling would be to determine whether an area currently meets the SO<sub>2</sub> NAAQS, and thereby indicate the designation process for the area."

NNEPA is including this dispersion modeling analysis as part of the approach recommended by U.S. EPA in defining designation areas. The recommended dispersion model for modeling SO<sub>2</sub> designations is the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) modeling system. This AERMOD dispersion modeling analysis was conducted using actual SO<sub>2</sub> emissions from the Four Corners Power Plant during the 2012 – 2014 period. The modeling analysis was done per the Modeling TAD, in which U.S. EPA

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<sup>1</sup> "Data Requirements Rule for the 2010 1-Hour Sulfur Dioxide (SO<sub>2</sub>) Primary National Ambient Air Quality Standards (NAAQS); Final Rule," 80 *Federal Register* 51052, August 21, 2015.

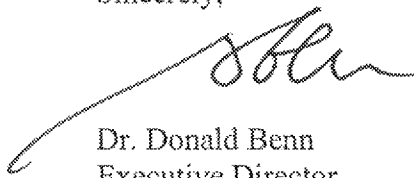
recommends modeling the most recent 3 years of available actual emissions. The guidance in the Modeling TAD differs in selected respects from the guidance published in the *Guidelines for Air Quality Models*, 40 CFR Part 51, Appendix W, for the following:

- Placement of receptors only in areas where it is feasible to place a monitor vs. all ambient air locations (NSR, PSD, and SIP).
- Use of the most recent 3 years of actual emissions (designations) vs. maximum allowable emissions (NSR, PSD, and SIP).
- Use of 3 years of meteorological data (designations) vs. one to five years (NSR, PSD, and SIP).
- Use of actual stack height for designations using actual emissions vs. Good Engineering Practice (GEP) stack height for other regulatory applications (NSR, PSD, and SIP).

NNEPA incorporated the differences listed above and followed Appendix W guidance where applicable for modeling designation purposes. The averaging period for the 2010 SO<sub>2</sub> NAAQS is the 99<sup>th</sup> percentile of maximum monitored daily values, averaged over three years (herein referred to as "design value"). Thus, three years of meteorological data is required to simulate a monitor for the purpose of designation. The NNEPA, therefore, provides the enclosed summary of modeling protocol and analysis results and a digital copy of the input and output files to U.S. EPA Region 9 in support of compliance with the 1-Hour SO<sub>2</sub> Primary NAAQS and attainment designation of the FCPP source area.

If you have any questions, please contact Mr. Michael King, Senior Environmental Specialist, at (505) 368-1046 or [mzking@navajo-nsn.gov](mailto:mzking@navajo-nsn.gov). You may also contact Ms. Eugenia Quintana, Environmental Department Manager, at (928) 871-7800.

Sincerely,



Dr. Donald Benn  
Executive Director  
Navajo Nation Environmental Protection Agency

Enclosures

xc: Gwen Yoshimura, U.S. EPA Air Planning Office  
Anita Lee, U.S. EPA Air Division